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ABSTRACT

Although action research in education offers researchers and practitioners a clear and philosophically appealing way of making improvements, fostering learning, and developing the individual and the organization, adherents sometimes find themselves defending this type of research because it has been practiced without appropriate rigor. This book takes a pragmatic approach in describing the theory and practice of developmental action research, carried out by or for educational practitioners within their own organization in response to some aspect of professional work that needs to be developed, either within the classroom, across the school, or in the administration of the organization. Following introductory remarks, the book is organized in four sections. Section 1 explains the concept of developmental action research; presents examples at the classroom, school, and management levels; and summarizes key features of other types of action research. Section 2 focuses on characteristics of developmental action research, including the nature of the research project, the researchers, the aims of the approach, guiding values, research processes, data collection methods, evaluation tools, and project reports. Section 3 presents the framework for conducting a cycle of action research, planning a collaborative project, and developing an action research proposal. Section 4 discusses challenges for action researchers, focusing on validity in action research and ethical considerations. (Contains 56 references.) (KB)

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ACTION RESEARCH
A DEVELOPMENTAL APPROACH

CAROL CARDNO

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ACTION RESEARCH: A DEVELOPMENTAL APPROACH

CAROL CARDNO

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WELLINGTON
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PREFACE

It is with considerable pleasure and pride that I write this preface: "pleasure" because, as a fellow action researcher with a passion for the approach, I always enjoy helping another practitioner to spread the word; and "pride" because this is a book I am proud to recommend. It is a clearly written account of what might seem, superficially at least, a simple approach. In reality, action research is a highly complex research design which is difficult to implement. It demands high-level skills in the areas of group interaction, dialogue, data collection, change management, literature review, critique, reflection, analysis, writing...to name just a few!

The author has presented this complexity in a way that will appeal to action researchers at all stages on the continuum from novice to expert. Her skilful juxtaposition of theory, research and practical ideas for implementation has resulted in one of the most useful accounts of action research published to date. This book makes a considerable contribution to our understanding of action research.

Eileen Piggot-Irvine
Massey University

INTRODUCTION

This book has been written to inform and guide practitioners who are interested in researching and improving their practice. The immediate audience will be teachers and managers in all sectors of education, from early childhood centres to tertiary institutions. The book may also be of interest to anyone seeking a short guide to the principles and practice of this form of applied research.

Undertaking to write a small book about action research is a daunting task, for several reasons. First, action research in the last half-century has become a phenomenon that is paradoxically simple yet complex. On the one hand, the *idea* of action research has universal appeal because it is so very straightforward and practical. It offers researchers and practitioners a clear and philosophically appealing way of making improvements, fostering learning, and developing both the individual and the organisation. Its strength lies in its aim to investigate *and* to improve. On the other hand, "action research" has grown to mean so many things to so many different people that its meaning and function need to be reinterpreted at every point as the ideas are applied to a particular context. This book takes a pragmatic approach in describing the theory and practice of a form of action research that can be used in the development of individuals, teams or whole organisations.

Second, action research has gained a reputation in some arenas as a messy and weak form of research because it has been practised without appropriate rigour. This is unfortunate, and a constant challenge to its adherents, who find themselves having to defend the worth and status of the methodology. There is no doubt that there are some very bad examples of so-called action research, which are more akin to an informal problem-solving approach than to the systematic and critical processes used by serious action

researchers. There are also many examples of good action research, one of the richest sources being the international journal, *Educational Action Research*.

However, because the aim of this book is to guide practitioners who are undertaking research in their own workplaces, it presents a model that is manageable without diluting the integrity of the approach. It provides a comprehensive (but by no means exhaustive) description of the principles of action research, and some examples of actual projects to inspire and guide new action researchers and enhance the quality and effectiveness of their projects.

DEVELOPMENTAL ACTION RESEARCH

The concept of action research is sometimes mystified as something arcane and difficult. This view is both unhelpful and unfounded. *Research* simply means systematic investigation into a subject in order to establish facts and reach new conclusions. *Action* implies that the researcher will not accept the status quo but will intervene – "take action" – to change it. The two terms are intrinsically linked. Kurt Lewin, the father of action research, said that in his view there was no effective action without research and no effective research without action (Adelman, 1993).

The term "action research" creates the expectation that those involved will be researching a particular situation with the intention of taking action that will make a difference – that is, will bring about change or improvement. Furthermore, "action research" implies that the project is ongoing, with the researcher building on initial work, generating further spiralling cycles of research and action to address new or emerging issues. Above all, there is the expectation that the action researcher will be working with others. The approach is appealing to practitioners because, as Stringer (1999) reminds us, its fundamental purpose is "to enable groups of people to formulate mutually acceptable solutions to their problems" (p.188).

Developmental action research

In this book, the word "developmental" is used to describe a particular type of action research that is carried out by or for educational practitioners within their own organisations in response to some aspect of professional work that needs to be developed, either within the classroom, across the school, or in the management of the organisation.

In this form of action research, a group or team of people work together to address a significant issue or problem. It involves a serious commitment of time, and a formal approach that is both dynamic and developmental: "dynamic" because the problem is investigated from many perspectives and the original view of the problem often changes as the cycle of research and action unfolds; and "developmental" because it sets out to change practice. Furthermore, it does so by closely involving other people who have a real and shared interest in solving the problem. In the course of the research, development usually occurs at several levels – the personal, the collegial and the organisational.

At the personal level the participant develops a deeper understanding of their own practice and of the beliefs and assumptions that frame their practice. This process is facilitated by their personal reading and reflection, and by the opportunity to look closely at a particular aspect of their practice and to share their perceptions and findings with others.

At the collegial level the participants develop shared understandings, and the group's ability to reflect on new learning is enriched by multiple perspectives and the opportunity for an honest dialogue and exchange of ideas. A joint commitment to developing and improving practice increases the potential for long-lasting change.

At the organisational level the commitment of staff to resolving problems that affect student learning – either directly through teaching practice or indirectly through the way curriculum delivery is managed and supported - is a powerful catalyst for positive change and development.

The following examples illustrate the application of developmental action research in school settings. It is hoped that action researchers in the early childhood and tertiary sectors will see ways of transferring these ideas to their own settings.

Example of action research in the classroom

A group of Year 3 teachers in the junior school syndicate of a primary school were concerned that the handwriting skills of left-handed children were not developing as well as expected. They decided to work together to see what the research and their colleagues had to say about the difficulties faced by left-handed writers at this learning stage. They then planned strategies, and applied them in their classrooms with six children. Each child's development was monitored, and at regular meetings the group reflected on what had been done and on the children's progress.

After an eight-month trial of some successful ideas (and some failures), the group reported to the whole staff on what they had learnt, and hosted a parent/teacher gathering where they shared their findings with the school community. The interest generated by this first cycle of action research on left-handedness has led to a further cycle being initiated by one of the syndicate leaders who, with a group of colleagues, is interested in examining the teaching of handwriting in the senior section of the school.

Example of action research in across-the-school curriculum development

The use of action research for the professional development of teachers has a long history in New Zealand. In the 1980s, for example, the Department of Education launched a national curriculum project to raise awareness of sexist practices in educational institutions and to foster change. Groups of teachers were brought together in regional and local workshops and shown how to carry out developmental action research in their own settings. A booklet, *Countering Sexism in Education* (Department of Education, 1989), was produced to encourage a systematic and collaborative approach to reviewing and changing practice.

The project adopted a seven-step model for working through issues relating to sexism. This approach has since become a national resource, and is often used by facilitators leading groups of teachers in professional development on issues such as assessment and the introduction of the National Certificate of Educational Achievement (NCEA). The seven steps are:

STEP ONE: **Choose an issue** in your institution, group or classroom which you believe deserves significant attention.

STEPTWO: **Investigate the issue** by collecting evidence/ data/information about it.

STEP THREE: **Analyse** the situation by studying the data and thinking about the implications.

STEP FOUR: **Plan the action** you want to take in order to change the situation.

STEP FIVE: **Act** by using your plan and monitoring the effects.

STEP SIX: **Evaluate** the effects, using the data from Ste Two to check whether changes have been made, whet any new/different problems have emerged, and h change can be sustained.

STEP SEVEN: **Revise** your plan in the light of the evaluation, or choose another issue that needs attention.

A similar process is often used by facilitators working with schools in the course of professional development contracts funded by the Ministry of Education. A key feature of these projects is that, when the contract facilitator has left, the teachers and managers in the school continue to use the process to examine and address further issues.

Example of action research in the development of school management

The senior management team at a large secondary school identified the induction of new teachers as a major concern.

Team members were having to "mop up" a lot of problems apparently caused by staff new to the school who were unaware of or poorly informed about a range of school procedures and traditions. The deputy principal, who was very interested in performance management and was completing a masters thesis on staff appraisal and development, agreed to lead an initiative to improve the situation.

The research team undertook some background reading, and one member collected information on induction practices at three similar-sized schools. Monthly half-day meetings were scheduled to work on the project. This was a considerable time commitment, and showed the significance the team accorded to the project. Recently appointed staff were invited to group interviews, and heads of department were also interviewed. Team members read widely and talked to colleagues at other schools.

The team then devised a strategy for change to be implemented the following year, together with a plan for monitoring the implementation through feedback from participants and middle managers. The school's performance management policy was revised to include induction, and a handbook for new staff was prepared. The team also presented a report to the board of trustees. A related issue - the need to review the induction programme for beginning teachers in the school - arose out of this project and generated a new cycle of research and action.

Other forms of action research

In the vast array of literature on the subject, it can be very confusing to find action research described variously as a tool for personal reflection, an approach for improving practice, a means of liberating the oppressed, and a scholastic methodology. There is also a great deal of informal activity

related to reflective practice and problem-solving that is self-styled as "action research". Indeed, the literature covers all of these forms and more. There are, of course, several identifiable types of action research other than the "developmental" approach described in this book.

All forms of action research belong to a family of activities aimed at marrying research with action within the one project. Henry and McTaggart (1996) have described several of these approaches as constituting a "broad church" of action research. They comment: "Action research is a term which is used (and misused) to cover a myriad of activities. [However, we include] only those kinds of enquiry for which there is a reasonable body of support for using the term" (p.6). Hence their criterion for inclusion is the availability of published accounts. The key features of their selected approaches are summarised below.

- ***Participatory Action Research (PAR)***

This approach is concerned with social transformation, particularly in the developing world. It is characterised by shared ownership of research projects, community-based analysis of social problems, and an orientation towards community action. Proponents of PAR argue that orthodox social science, despite its claim to value neutrality, normally serves the ideological function of justifying the position and interests of the wealthy. Accounts of this kind of research are to be found in Freire (1982), McTaggart (1991) and Reason (1996).

- ***Critical Action Research***

This approach has a strong commitment to broad social analysis of the use of power and language, in the tradition of critical social science. A fundamental aim is to reveal the disempowerment and injustice created in industrialised

societies and by social class, gender and ethnicity. Accounts of this kind of research are to be found in Carr and Kemmis (1986), McTaggart (1991) and Zuber-Skerritt (1996).

- ***Classroom Action Research***

This approach typically involves teachers holding discussions and collecting data (often with the help of academics acting as facilitators and advocates of "teacher knowledge" rather than theory) with a view to making judgmts on how to improve their practice. The emphasis is practical, and the inquiry approach is qualitative and interpretative. Accounts of this kind of research are to be found in Dadds (1995), Elliott (1991) and Stenhouse (1975).

- ***Action Learning/Process Management***

This approach is fundamentally aligned with organisational development, which brings people together to learn from one another's experience in the process of management inquiry and improvement. Accounts of this kind of research are to be found in Revans (1982) and Pedler (1991), and in the reports and newsletters of the Association for Action Learning, Action Research & Process Management (ARCS).

- ***Action Science***

This approach emphasises reflection on practice as a source of new understanding and improved practice. It distinguishes between "espoused" theories of practice and "theories in use", and emphasises self-understanding of the gaps between the two and the role of defensive reasoning in blocking learning and change. Accounts of this kind of research are to be found in Argyris (1990), Argyris and Schön (1974, 1978), and Argyris, Putnam and McLain Smith (1985).

- ***Soft Systems Approaches***

In this approach, an outside consultant works with groups in an organisation to generate "systems" models of the problem situation. These are then used to question the situation and suggest a revised course of action. Accounts of this kind of research are to be found in Davies and Ledington (1991) and Patching (1990).

An emerging form of action research

- ***Educational Management Action Research***

There is growing interest in an action research approach to resolving problems in educational management, leadership and administration. Evidence of this trend can be found in Britain (Wallace, 1987; Lomax, 2002), Australia (Dick, 2002) and New Zealand (Cardno, 1996; Cardno and Piggot-Irvine, 1996). In New Zealand there are now several academic reports, at both doctoral and masters level, that use this methodology. As part of a framework for strategic planning and review, the Ministry of Education has identified action research as a means of evidence-based planning to improve student achievement (Ministry of Education, 2002).

In a nutshell

Developmental action research may be viewed as a hybrid form because it draws on both the theory and practice that have shaped many types of action research classified in the literature, including Classroom Action Research, Action Learning, Action Science and Educational Management Action Research. Its purpose is the development of individuals, groups and organisations through the investigation and improvement of practice. Reports of this kind of research are becoming more common (Cardno, 1996; Carr, May and Podmore, 1999; Robertson, 2000).

In short, developmental action research is conducted within organisations by the practitioners themselves or by others contracted to assist them. The researcher is motivated to find out about a situation, problem or issue where improvement or change is needed, and then to act with relevant others to make a difference to practice. The leader or facilitator of the project collaborates with others in the organisation and establishes a research group to discover the nature of the problem they wish to resolve. They must be prepared to investigate and analyse the issue from a variety of perspectives, and let what is learnt from this process guide the development of a plan of action. When this plan or strategy for change has been implemented and evaluated, the research group undertakes collective and evidence-based reflection on the success of the initiative, leading to further issues being considered in a new cycle of research and action.

CHARACTERISTICS OF DEVELOPMENTAL ACTION RESEARCH

Carrying out the specific processes that constitute developmental action research is seemingly quite simple and straightforward. However, doing so in keeping with the principles of action research is somewhat more demanding. Action research is far more than a step-by-step process: it is a methodology embedded in a unique system of values and practices. The framework proposed in this guide is both practical and values-based, and should be adopted by all action researchers seeking change that is long-lasting and empowering to everyone involved.

Anyone choosing to do action research should have some understanding of the special features that distinguish it from other methodologies. These features relate to the following areas, and are discussed in more detail below:

- the nature of action research projects
- the researchers
- the aims of the approach
- guiding values – collaboration and critique
- processes in action research
- data collection methods
- evaluation tools
- reporting projects.

The nature of action research projects

By their very nature, action research projects are small and situational. They are a form of applied qualitative research and are intended to be ongoing, through the spiralling cycles of research and action that are characteristic of the methodology.

Small and situational projects

The action researcher is often tempted to "solve the world's problems", and needs to be reminded that the project must be manageable and focused. It is very easy to be deflected from a particular issue as the research proceeds, so the message "start small and stay focused" is an important one for the research group to remember.

The purpose of action research is to isolate and then resolve a specific issue in a specific setting such as a school. It is not the intention of action researchers to prove that their findings can be generalised to other settings and are therefore applicable to all schools, although the practical knowledge they generate is often of interest to other practitioners and may be transferable.

Applied research

Action research is "applied research" in that its applicability is embedded in the project itself (although arguably the results of almost all research have application at some point). In other words, because action research involves both research and action, the immediacy of applying the findings from the research side (the investigation) to the action side (the intervention to bring about change) is unique to this methodology.

Qualitative research

A methodology is a set of principles and values that underpin a particular research tradition or approach. The action research methodology aligns itself with *social science research* and the *qualitative approach*.

Social scientists are concerned with the social world (human interaction) rather than with the physical world of science. Scientific or "pure" research has been concerned

with eliminating bias and subjectivity in order to achieve rigour. This long and respected tradition has contributed *quantitative* methods, based on experimentation and the measuring of quantifiable, observable data that lend themselves to statistical analysis.

Social science research, on the other hand, embraces the challenges inherent in working with human subjects. It is the very *subjectivity* of personal and interpersonal meanings and understandings, values, and feelings, that it observes, records, interprets, and reports. As a consequence, a range of methods have been developed that are *qualitative* in nature, and encourage researchers and the subjects of their research to work closely together and to seek shared meanings and understandings at a deeper level.

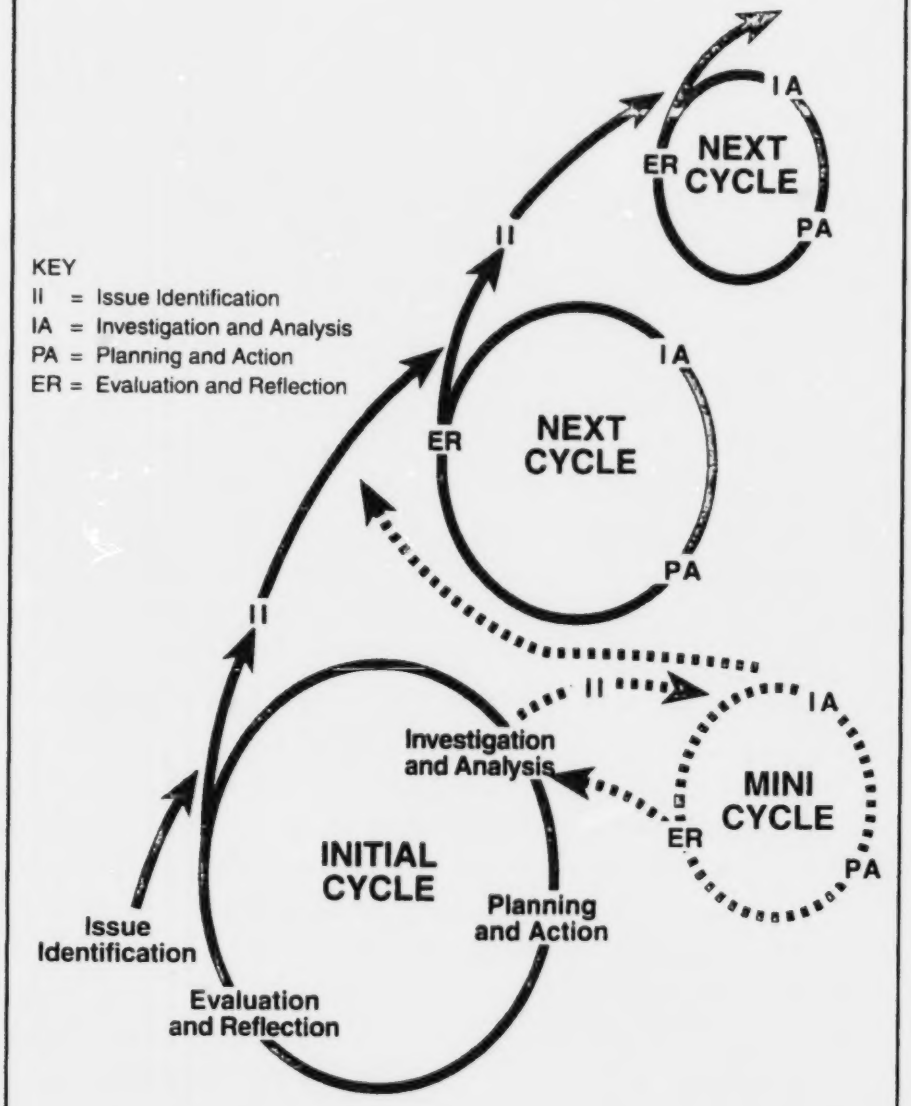
Action researchers approach their projects qualitatively, with a focus on the interpretation of phenomena; in other words, they research *with* participants in the project, rather than using them as subjects *for* research, as in a scientific frame. But action research goes a step further: it requires intervention in the status quo to bring about change, and expects this to occur within the research project and not at some later date (if at all).

Although action research is inherently qualitative, its followers realise that they can use quantitative methods such as surveys when such tools are appropriate. They also realise, of course, that these tools need to be tailored to suit their small-scale, socially oriented projects.

The spiral and cycles of action research

Figure 1 illustrates the spiralling nature of the action research process, and the way in which one cycle of research and action can lead to another. Consequently, when one cycle ends, the project does not; it continues to address the original problem or to tackle a new dimension of that problem.

Figure 1: Spiral of Developmental Action Research



Cycles of action research

Each cycle in the spiral is launched by the identification of a problem or issue. In each cycle there are three major phases: investigation and analysis, planning and action, and evaluation and reflection. The third phase creates the basis for deciding "what next?", and for moving on to a further cycle in which these three stages are repeated, focusing on a new dimension of the original issue or a new issue that emerged during the first cycle.

Mini or "spin-off" cycles

Action research is a flexible and dynamic process. There is always the possibility that, as the research group begins to investigate an issue, a spin-off issue may seem important enough to be considered as a mini cycle of action research. The mini cycle may well become the main focus of the research project, and lead on to other cycles; or the spin-off issue, once addressed, may feed new information back into the original investigation.

The dynamic nature of action research is emphasised by Elliott (1991) and McNiff (1988). Both are concerned that researchers, influenced by the proliferation of linear process models, might assume that the initial idea, problem or concern should be seen as fixed, rather than as a starting point that may shift as the investigation unfolds. Because action research is inherently organic, it may generate new and associated ideas and problems. McNiff (1988) contends that action research lends itself to exploring sub-issues and that this is possible, provided that the researcher can maintain a focus on – or return to – the main issue of inquiry. In fact, a tangential issue may often need to be tackled first, on the way to addressing the substantial issue.

The initial cycle of action research

Each phase of the action research cycle (see Figure 1) is explained below, together with an example drawn from a developmental action research project in a primary school.

THE PLAYGROUND PROJECT

Mary, Jeff and Sandy are the senior management team in a large urban primary school. Playground safety has been on their meeting agenda for three months, but more pressing matters have repeatedly relegated it to the bottom of the list. At the start of the new year, they are determined to give priority to this important issue.

- ***Issue identification***

Before embarking on a cycle of action research, the researchers need to spend time identifying the issue and assessing its significance. The issue should be examined from several perspectives to determine whether it is worthy of research or whether a simpler problem-solving technique could be used. This is a serious point to ponder: action research is a demanding process, and it is important to ensure that the time, effort and commitment of many people are not wasted on trivial issues.

THE PLAYGROUND PROJECT

In order to gauge the seriousness of the problem, the senior management team decided to approach it in a systematic way. Sandy had recently completed a study course in which she read about several forms of practitioner research, and was keen to use action research in this situation. The team agreed to allocate half an hour of each weekly meeting to the issue for one month.

The first step was to clarify whether playground safety was indeed a significant concern that warranted an action research approach. Here's what they did:

- they read past reports by the Education Review Office (ERO)
- they brainstormed their own perceptions of the problem
- they took the issue to a full staff meeting, and checked out the perceptions of other staff as to the seriousness of the problem
- they studied the minutes of board of trustee (BOT) meetings to see how frequently playground safety emerged as a concern
- they had the issue placed on a BOT meeting agenda for discussion.

At the end of the month, the team had a sound sense that playground safety was viewed on many fronts as an area that needed improvement.

- ***Investigation and analysis***

At this point, the researchers should consider what they need to know about the issue, and to plan ways of examining it from different perspectives. This allows them to check out their hunches and to become more aware of existing research on the topic. It is also useful to find out how other schools might be dealing with the same or similar problems. Thus the school-specific issue is set within the wider context of the available research literature and current practice by other professionals.

A key task is to assemble the existing literature and documentation for review, which can be done formally or informally. Another task is to plan what data needs to be collected on current practice within the organisation, and how this will be done. Once collected, the data needs to be analysed. The group's background reading on the subject, and the picture that emerges from the data analysis, are then used to shape a strategy for change.

THE PLAYGROUND PROJECT

The senior management team familiarised themselves with policy documents at national and school level, and an initial collection of readings on the subject of playground safety. This led them to consider related issues such as playground equipment, bullying, playground violence, and gender issues in the use of playground space.

The team then invited all staff to a meeting that tried to pinpoint key concerns about unacceptable playground behaviour. Staff agreed that some locations and some children made the playground unsafe for other children, but evidence was needed to confirm this view. It was proposed that playground behaviour be observed over a four-week period, and duty teachers agreed to use a checklist to record incidences of unsafe behaviour.

The data from the observations was then analysed by the senior management team. The patterns that emerged confirmed their original concerns, and also provided some surprises. It was evident that the actions of some staff on duty were effective in eliminating unacceptable behaviour, while the actions of other staff were ineffective.

- ***Planning and action***

The next step is for the group to develop and implement a plan of action, which should be shaped by the insights they gained in the previous phase. The research they conducted into their own or the school's practice will have pinpointed where change is needed and the kinds of change required. At this point, the group should develop a written plan indicating the intended outcomes, as this will provide the basis for judging the effectiveness of the action.

THE PLAYGROUND PROJECT

At a breakfast meeting, staff volunteers joined the senior management team to reflect on the findings of the observation exercise and to devise a plan for changing staff practice. They decided that effective practice should be shared, and used to develop a set of playground rules (and consequences for rule-breaking) that would be consistently communicated to the children. A task-group of six staff members (two senior managers and four teachers) worked out the strategies for change. These were implemented as follows:

- Two staff meetings focused on teachers developing skills in spotting and stopping behaviour problems in the playground.
- A playground discipline plan was developed, outlining the rules and the consequences if rules were broken.
- Staff agreed to isolate three particular playground safety issues: access to danger areas, the take-over of the adventure playground by big boys, and pushing of any sort. Both staff and students made a concerted effort to eliminate these behaviours over one school term.
- Staff agreed that, as they came off playground duty, they would record every incident and their response in an incident book kept in the office.

- ***Evaluation and reflection***

Once the change strategies have been implemented, they need to be evaluated so that the research group can judge how successful they have been in making a difference to practice. At this point, they may need to collect more data, and use it to reflect on what has changed and what their next steps will be. Strategies can be evaluated *during* implementation, which means monitoring the changes as they happen; alternatively, the effect of the changes can be evaluated *at the end* of the process.

THE PLAYGROUND PROJECT

At the end of the term, the senior management team reviewed the incident book to help them evaluate how playground behaviour might have changed. A special staff meeting was held for staff to discuss their experience with the new rules and to raise matters that were still causing concern.

Ongoing cycles of action research

The learning gained from the first cycle of action research enables the researchers to reflect on the effectiveness of their strategy for change. This leads to new thinking and new perspectives on the problem and to new issues, which in turn trigger a new cycle of investigation and analysis, planning and action, evaluation and reflection.

THE PLAYGROUND PROJECT

As they reflected on the effectiveness of the changes, the staff identified the physical playground resources as an area that had not been dealt with in the first cycle of action research. Having brainstormed several concerns in this area, they agreed that these should be addressed in a further cycle of research and action.

The researchers

Action research cuts across traditional views of the relationship that researchers are supposed to have with the context and subjects of their research. Whereas the scientific researcher is expected to be distanced and unbiased, the action researcher is placed right in the middle of the situation being researched, and is usually implicated in the problem itself. It is impossible for them to follow the rule that researchers must be neutral and not influence the situation

being studied, because the whole purpose of action research is to alter that situation.

Action researchers need to be people within the organisation who are close to the situation they want to improve. For practical reasons, however, external facilitators are sometimes brought in to lead or co-ordinate a project. But regardless of who leads the project, people close to the problem are invariably involved in the research.

In developmental action research, members of the research group need to have motivation, commitment and expertise or experience across a broad spectrum of research-related tasks. Members also need to consider the practicalities of who will take on the co-ordinating role or roles in different phases of the project, to meet the various demands that arise.

The same group does not have to be involved in every aspect of the project. In the playground project, for example, the senior management team formed the initial research group that investigated and analysed the problem. At the planning stage, however, they drew several new members into the group, and all staff took part in monitoring the changes as they were implemented.

All groups need leadership, especially when embarking on a long-term, systematic process aimed at making a difference to practice. Staff members, though enthusiastic about the project, may already be under pressure and unable to add another major task to their workloads. At this point, appointing an external consultant to gather, analyse and report on data and to facilitate meetings is an attractive option chosen by many action research groups.

In short, the action researchers are the people nominated as the core research group, who are willing to see the project through to the final reporting stage. Those who engage in this process – one that is intended to have a direct impact on practice – are embarking on a challenging and exciting journey of learning.

The aims of the approach

The aims of action research are twofold - to enquire into professional practice, and to use the knowledge and understandings thus gained for developmental purposes. Action research is inherently and simultaneously about attaining:

- a better understanding of problems *and*
- improved practice.

Elliott (1991, p.69) defines action research as "the study of a social situation with a view to improving the quality of action within it". This definition captures the dual aims of studying current practice in a specific situation and then improving it. There does not, however, appear to be any single, universally accepted definition of *educational action research*. Participants at a National Conference on Action Research at Deakin University in 1981 agreed on the following description:

> Educational action research is a term used to describe a family of activities in curriculum development, professional development, school improvement programmes and systems planning and policy development. These activities have in common the identification of strategies of planned action which are implemented, and then systematically submitted to observation, reflection and change. Participants in the action being considered are integrally involved in all of these actions. (Grundy and Kemmis, 1981, p.2)

Cardno and Piggot-Irvine (1996) have examined action research for its relevance in the training of senior managers in schools. They consider that:

> Action research is an educative and developmental process. We believe it is effective when:
>
> - reflective practice is data-based;
> - multiple perspectives are acknowledged;
> - critique is based on explicit norms and theories of action. (pp.20-21)

Finally, we have a definition from Lomax (2000), who states that:

> Action research is a self-reflective, self-critical and critical enquiry undertaken by professionals to improve the rationality and justice of their own practices, their understanding of these practices and the wider context of practice. (p.122)

This definition draws attention to two aims that work in tandem in action research: the practical aim of improving one's practice, and the broader aim of social justice through empowering others. Inherent in this approach is the potential for self-discovery, and for learning about barriers to fairer and more effective practice. So too is the empowerment of practitioners to make discoveries, and hence to challenge the limitations imposed by known and accepted ways of doing things.

Guiding values – collaboration and critique

Collaboration in action research

One of the guiding values of action research is a commitment to collaborative endeavour at all stages of a project. Whether the research is conducted by a group or by an individual as an academic or reflective exercise, the people associated with the problem situation must be involved as active participants.

Stringer (1999) suggests the following set of standards for effective participation:

> Participation is most effective when it
> - enables significant levels of active involvement
> - enables people to perform significant tasks
> - provides support for people as they learn to act for themselves
> - encourages plans and activities that people are able to accomplish themselves
> - deals personally with people rather than with their representatives or agents. (p.35)

Henry and McTaggart (1996) see the collaborative impulse as common ground among the many and varied forms of action research:

> Groups typically have a variety of participants brought together by a shared concern. The approach is only action research when it is collaborative, though it is important to realise that the action research of the group is achieved through the critically examined action of individual group members. (p.7)

Critique in action research

In essence, action research involves critical inquiry into the practice of individuals, groups or organisations. It is usually conducted by professionals who are themselves key actors in the practice under investigation. The inquiry therefore involves a strong element of critical self-reflection or self-education about the researchers' own performance and the unique context in which it occurs.

As we have seen, all forms of action research focus on improving a problem situation. One perspective of action research (Carr and Kemmis, 1986) presents the degree of critique employed in problem-solving endeavour along a continuum of technical, practical and critical action research. Action research that aims at functional improvement has been termed *technical action research,* and is a particular form of problem-solving. A more demanding form, which is called *practical action research*, aspires to technical change, and to informing decision-making by engaging participants in reflective practice (Schön, 1987). Those involved in such projects aim to understand and change both themselves and the outcomes of their practice. There is critique in this kind of action research, but its strength is determined by the resources for critical reflection (in the form of personal and interpersonal skills) that practitioners can draw on.

Yet another form, known as *critical* or *emancipatory action research*, often involves large participatory projects undertaken in the context of social movements to develop communities or defend the rights of indigenous peoples. The concept is located within a tradition of critical theory, informed (typically in educational research) by a neo-marxist theory of capitalism. Its adherents embrace the philosophy of the Frankfurt School, which is dominated by the view that theory "has the central task of emancipating people from the positivist 'domination of thought' through their own understanding and actions" (Carr and Kemmis, 1986, p.130). According to Carr and Kemmis, Jurgen Habermas developed the idea of a critical social science that can be located between philosophy and science (1986, p.133). The critical social science view is that knowledge can be seen in the context of how it is constituted and its potential contribution to social evolution. This implies an interventionist approach, which perceives knowledge as having implications for progressive social change.

Kemmis (2001) describes how Habermas's theory of communicative action can frame the way in which action researchers explore their world view and experiences. In relation to his own evolving beliefs about the role of critique in action research, Kemmis states:

> I have come to see a critical action research project as more open and fluid, as a "self-constituting public sphere", and to see those who participate in the shared project of a particular programme of action research as engaged citizens committed to local action but with a wider critical and emancipatory vision for their work. (p.101)

Emancipatory or critical research aims to help practitioners develop a critical and self-critical understanding of their situation; it also helps them to realise that achieving functional goals may be limited or inappropriate once they have gained a wider understanding of the situation, and that their thinking

may have been shaped by collective misunderstandings. Fundamentally, as Kèmmis (2001) points out, emancipatory or critical research

> ...aims to connect the personal and political in collaborative research and action aimed at transforming situations to overcome felt dissatisfactions, alienation, ideological distortion, and the injustices of oppression and domination. (p.92)

The critical theory school and the action science approach associated with organisational learning (Argyris, 1980) have been singled out as "strong" versions of action research. They emphasise the beliefs, values and purposes of social actors who can reflect on their situations and on themselves and transform their reality (Peters and Robinson, 1984).

By contrast, "weaker" versions of action research do not apply the tenets of a critical social science to resolving practical problems. These versions of action research, including developmental action research in educational contexts, are transparently more practical and pragmatic in their intent, although they do not avoid self-critique and its great potential for learning, empowerment and development.

Indeed, the possibilities for critical self-reflection and critical collaboration should not be bypassed in developmental action research projects, if those involved truly wish to initiate change and sustain improvement. Rather, participants need to be prepared for the demands of critical inquiry, and have access to appropriate resources.

Resources for critique

Within educational action research projects, the resources for critical inquiry generally include journal writing and discussion, the aim of the discussion being to reach consensus on the nature of problems and of individual and organisational responses to them. At a deeper level, there are specific resources for uncovering barriers to change through what is termed "critical dialogue" (Robinson, 1993; 1996).

In the context of New Zealand education, some of the most effective interventions have been influenced by the work of Viviane Robinson. In *Problem-Based Methodology: Research for the Improvement of Practice* (1993), she argues that educational researchers wanting to improve practice should adopt a problem-based methodology in which

> ...the theories of action relevant to the problem situation are investigated, evaluated and, if necessary, altered. A theory of action is a theory we attribute to ourselves and others that purports to explain or predict, on the basis of relevant values, beliefs and motives, why people act as they do in a given situation. (p.vii)

Robinson describes the resolution of educational problems as "action informed by beliefs about how to achieve educationally important purposes in particular circumstances" (p.5). She asserts that to understand an educational problem we need to understand the practitioner's theories of practice and the factors that sustain those theories. The resolution of an educational problem will involve changing those theories to produce consequences that are no longer problematic. Problem-based methodology requires that the processes of understanding and resolving the problem be conducted as a "critical dialogue", which allows competing theories about the problem to be adjudicated and the learning of new theories to occur within the research context itself.

Robinson suggests that the collaborative relationship to be established is

> ...a relationship between researcher and practitioner where the primary goal is warranted agreement about what counts as the best theory of the problem.... The goal of warranted agreement suggests that the guiding value of the researcher-practitioner relationship should be inquiry and learning, through a process of mutual theoretical critique and bilateral control of the research process. I call such a relationship a process of critical dialogue. (p.54)

Learning how to conduct a critical dialogue, and teaching others to do the same so they can participate as equals, involves using an action science model developed by Argyris and Schön (1974). A critical dialogue requires us to subscribe to values and strategies that increase the possibility of generating valid information. Participants in such dialogue make bilateral decisions about what is to be disclosed and why, so that they respond on the basis of free and informed choice. It could be argued that Robinson's methodology proposes a form of personal emancipation from beliefs and assumptions that may be acting as barriers to change at both the individual and organisational level.

Guidance on using these critical resources can also be found in the literature on organisational learning, which involves a "theory of action" approach to resolving complex problems of practice (Argyris and Schön, 1978). Organisational learning is about the detection and correction of errors in order to improve practice. Individuals, teams and even schools can be involved in learning how to critique the "theories of action" that guide their practice (Cardno, 1995). Such learning involves examining the mismatch between intended and actual practice, and adopting productive reasoning to overcome defensive responses.

Processes in action research

The spiral process

Figure 1 (see p.13) depicted developmental action research as a spiral of cycles, with each cycle repeating a series of steps or phases that comprise both action and research. This notion is in keeping with the seminal work of social psychologist Kurt Lewin, widely acknowledged as the founding father of the action research "movement". Lewin described an iterative process in which repeated cycles of planning, acting, observing and reflecting created a spiralling effect (Kemmis and McTaggart, 1988).

The iterative process

Action research is inherently an iterative (circular and repetitive) process. At the end of each cycle of research, there is a need to consider whether to begin a new cycle to further refine practice or resolve a new problem or dimension that emerged during the dynamic process of inquiry, action and evaluation.

Well-known models of action research (Kemmis and McTaggart, 1988; Zuber-Skerritt, 1996) illustrate how several cycles of inquiry contribute to a spiralling effect. Lewin's description of action research, as presented by McNiff (1988), introduces us to the four basic steps in each cycle: planning, acting, observing and reflecting. McNiff's depiction of Lewin's "scheme of action" (p.22) is reproduced in Figure 2.

Lewin's scheme requires *planning* at the outset, which involves gaining an understanding of the problem in a variety

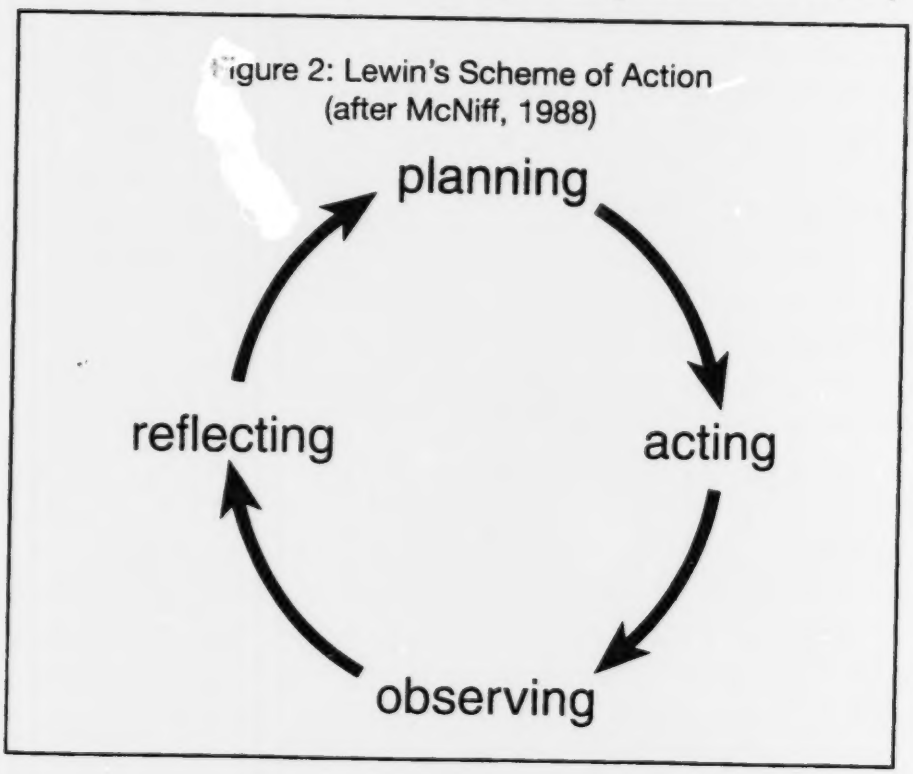


Figure 2: Lewin's Scheme of Action
(after McNiff, 1988)

of ways, before using this knowledge to devise a plan for change. Next, *acting* involves taking steps to intervene in the problem situation and do something differently - in other words, to implement change. The changes are then evaluated by *observing* their effects. By *reflecting* on the implications of the change, the researcher is led to reconsider the problem.

These steps within a cycle are variously named in different models of action research. Elliott (1991) and Cardno and Piggot-Irvine (1996) generally describe a three-phase process consisting of:

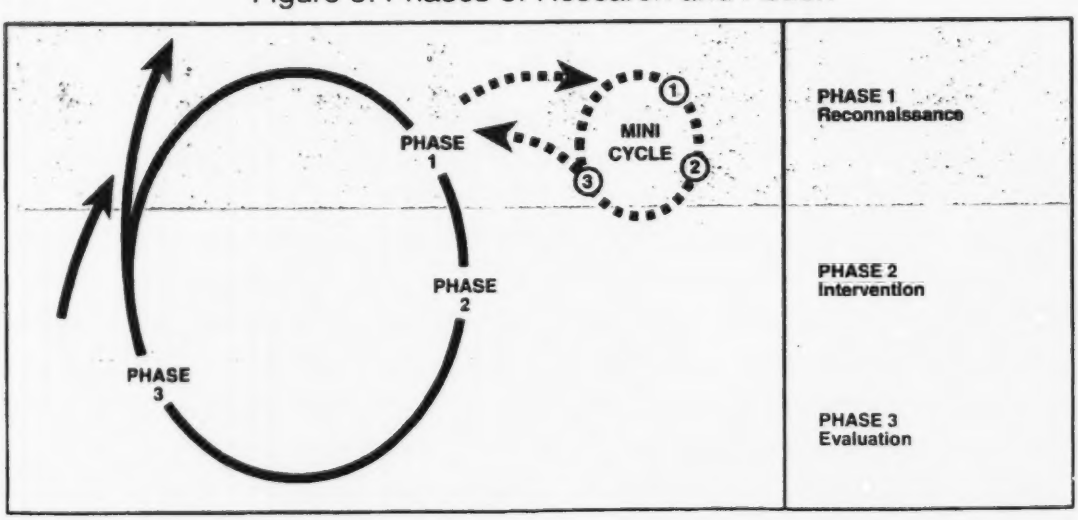
PHASE ONE - Reconnaissance (examining an existing problem)

PHASE TWO - Intervention (action to improve practice)

PHASE THREE - Evaluation (monitoring the effects of the action)

Figure 3 expands the view of the initial cycle depicted in Figure 1 to clarify the points at which these phases of research and action occur within a typical cycle. It also shows the relationship between the terms used in the figure and the three phases (Reconnaissance, Intervention and Evaluation) that will be described later in this book.

Figure 3: Phases of Research and Action



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Data collection methods

All three phases of an action research cycle – Reconnaissance, Intervention and Evaluation – involve the need to collect data. From the range of data collection methods available, action researchers choose techniques and tools that are appropriate to the situation being investigated. While action research is inherently a form of applied qualitative research, quantitative survey methods may also be usefully adapted in some cases, in keeping with the size of the project. Researchers may choose to deal with numbers or with descriptions, depending on the questions they wish to find answers for, their own skills in gathering and analysing data, and the scope of the project.

The most common data collection methods are those that can be applied easily and accurately by practitioners. These are:

- documentary analysis
- questionnaires that gather quantitative or qualitative data, or a mix of both
- individual interviews, which can be structured or unstructured
- focus groups
- observation.

There are numerous resources in the literature that describe these methods in more detail. All that is possible here is a brief overview of each method, together with some useful references.

Documentary analysis

Almost all action research projects require a review and analysis of documents pertaining to the problem area. For a school-based project, those documents may cover legislation, regulations, policy, sets of aggregated data, and statistics on student achievement. Analysing the documents relating to current practice helps to establish the status quo – what is happening (or should be happening) right now.

The following resources have some very useful advice for action researchers. The Ministry of Education is an excellent source of documentary data, and databanks of statistical material for benchmarking achievement standards and other purposes can also be accessed via the Ministry's website and the *Te Kete Ipurangi* portal.

Bell, J. (1999). The analysis of documentary evidence. In *Doing your research project: A guide for first-time researchers in education and social science* (pp.106-116). Buckingham: Open University Press.

Wellington, J. (2000). Documentary research. In *Educational research: Contemporary issues and practical approaches* (pp.109-121). London: Continuum.

Questionnaires

Questionnaires are the most common means of surveying a population (i.e. a sample of people) to arrive at a description of their views. The questionnaire is the instrument that is developed, piloted, and then used to collect data for analysis. While questionnaires are generally a cheap and efficient way to survey a large number of widely located people, they are sometimes used just because they seem the simplest way to collect data. The following resources are extremely readable and useful guides to developing, administering and analysing a questionnaire.

Anderson, G. (1998). Questionnaires. In *Fundamentals of educational research* (pp.170-182). London: Falmer Press.

Jenkins, P. (1999). *Surveys and questionnaires.* Wellington: New Zealand Council for Educational Research.

Interviews

Anderson (1988) comments that "the interview is probably the most widely used method of data collection in educational research" (p.190). He also reminds us that, while the interview is one of the richest sources of data, considerable care and skill are required to do it successfully. Because interviews are common in all walks of life, people tend to assume it is an easy technique to use. But to be a successful interviewer, it pays to read and act upon the information available from many sources.

The following resources are recommended for practical information on interview techniques.

Anderson, G. (1988). Successful interviews. In *Fundamentals of educational research* (pp. 190–199). London: Falmer Press.

Jenkins, P. (1988). *Surveys and questionnaires*. Wellington: New Zealand Council for Educational Research.

Tuck, M. & Davidson, C. (1988). Interview techniques: Questions, themes and prompts. In *Starting research* (pp. 17–25). Auckland: Oxford University Press.

Focus groups

The use of focus groups to gather data appears to be burgeoning in education. The technique has been popular in market research for over 30 years, and is an effective way of interviewing a group or groups of people to discern patterns and trends. The aim is to address a specific topic (or focus) in depth, through informal discussion moderated by a facilitator. The technique is an evolving one, and has features in common with "brainstorming" techniques. Note that the role of the facilitator or moderator (as distinct from someone who records feedback from the group) is most important. The following resources provide useful information.

Anderson, G. (1998). Focus groups. In *Fundamentals of educational research* (pp.200-209). London: Falmer Press.

Krueger, R. A. & Casey, M. A. (2000). *Focus groups: A practical guide for applied research* (3rd Edn.). Thousand Oaks: Sage.

Vaughan, S., Schumm, J. S. & Sinagub, J. (1996). *Focus group interviews in education and psychology*. Thousand Oaks: Sage.

Observation

Observation is a research tool that has many and varied uses. It can be used to collect data on, for example, the behaviour or learning of children and adults, social interactions, the performance of professionals, or the results of interventions. The setting in which the observation takes place and the specific purpose of the observation will determine the choice of techniques such as anecdotal recording, keeping running records, event recording or time sampling.

Observers need to be aware that their presence can affect the environment being observed. Also, the need to tape or video record what happens and to take careful field-notes can make this method complex and demanding. Two useful sources of information on the techniques of observation are provided below.

McMillan, B. & Meade, A. (1985). *Observation: The basic techniques*. Wellington: New Zealand Council for Educational Research.

Tolich, M. & Davidson, C. (1999). Observation techniques: Jotted, mental and expanded fieldnotes. In *Starting fieldwork* (pp.126-149). Auckland: Oxford University Press.

Evaluation tools

Evaluation is the task at the heart of effective decision-making. As Caldwell and Spinks (1988) point out, "the primary purpose of evaluation has been to provide decision-makers with information about the effectiveness of some programme, product or procedure" (p. 142). These authors have produced what they call an "evaluation equation" which sets out the core elements in evaluation:

EVALUATION IS
QUANTITATIVE DESCRIPTIONS
(measurement)
AND/OR
QUALITATIVE DESCRIPTIONS
(non-measurement)
PLUS
VALUE JUDGMENTS

In the case of action research, evaluation focuses on the effectiveness of the strategy for change that has been implemented. Although Figure 1 shows evaluation as a separate phase in the action research cycle, exactly when the evaluation begins will depend on the nature of the intervention. Evaluation can be *formative*, in that it takes place during an event or activity, thus allowing the judgments to have a bearing on the event or activity as it proceeds; or it can be *summative*, in that it takes place after an event or activity (Scriven, 1991).

Researchers may use formative evaluation when taking an incremental approach to change which needs to be monitored as it proceeds. In the case of the playground project discussed earlier, the change strategy required the staff to introduce a series of new rules and consequences. The type of evaluation needed was a tool to monitor each

new strategy, so that the outcome of observations, discussions and reflections could be fed back into the process to inform the next strategy in the series.

Researchers may use summative evaluation when they need to make judgments at the end of an activity or event. The common tool for this type of evaluation is the review, which requires the research group, having implemented the planned changes, to look back at what has been achieved. In the playground project, for example, it could be useful to review the entire project once all the new rules had been trialled.

Because the main purpose of action research is development, formative evaluation is the type most commonly used. While the evaluation phase should not be allowed to escalate into another full-scale research exercise, even the smallest evaluation of changed practice needs to be considered carefully. This is especially important in action research because the evaluation data forms the basis for both critical reflection on the changed practice and decisions about the next steps to be taken. When planning an intervention, the research group needs to establish the standards by which its success will be judged. This will provide a clear guide to the criteria they need to use in evaluating the effectiveness of the change.

The four essential steps of evaluation are as follows:

1. **Questions** are formulated, usually based on the aim of the evaluation; that is, what it sets out to measure in terms of the effectiveness of the change.
2. **Information** is gathered by a variety of means that are appropriate to monitoring or reviewing change. These might include observations, regular meetings, feedback, focus group discussions, re-administering a questionnaire used in an earlier phase, and interviews for summative purposes.

3. **Conclusions** are drawn about the effectiveness of the change, by reflecting on the information gathered and the extent to which the standards set for effective change have been met.
4. **Recommendations** are made which are intended to inform decision-making, guide any modification to the implemented changes, and direct attention to the next steps in terms of further cycles of action research.

Researchers can use the Evaluation Planning Grid (see Table 1) as a guide in deciding the most appropriate way of undertaking this phase of the project.

TABLE 1: EVALUATION PLANNING GRID		
Scope	***During***	***After***
Steps	***(Formative Evaluation) Monitoring***	***(Summative Evaluation) Review***
1. Questions: derived from aims established for the change strategy	What needs to be monitored during the implementation of the change strategies?	What needs to be reviewed at the end of the implementation period?
2. Information: gathered by appropriate means	• Periodic observation of practice • Regular meetings throughout the implementation period • Regular feedback	• Focus group discussion • Re-administration of a questionnaire ("before and after" check) • Interviews
3. Conclusions: based on reflection and judgment of extent to which standards set for effective change have been met	Reflect on standards set for effective change and judge success at a number of points as the change initiative proceeds.	Reflect on standards set for effective change and judge success at end of the full implementation of the change initiative.
4. Recommendations: to inform decision-making, guide modifications and direct next steps	Immediately implement recommended modifications. Continuously adapt change strategy to reflect recommendations. Identify key issues for further research.	Decide about further changes and further research, according to recommendations.

Reporting projects

In the continuing debate on the nature and status of action research, the issue of reporting action research projects has loomed large (Wallace, 1987; Zuber-Skerritt, 1993). Those who argue that much of what passes for action research is just a simple problem-solving exercise see the need for substantial reports to support the claim that any "research" has in fact occurred.

Yet the people involved in developmental action research are always busy practitioners, and even when an external facilitator is brought in, the reporting is assumed to be less important than the doing. (At least, this is the view of many practitioners with whom I have been associated in the course of facilitating and conducting action research projects.) Certainly the report, in an academic sense, is not essential in this particular form of action research. However, some way of reporting the outcomes of the project is strongly recommended, for several reasons.

One reason is that colleagues closely involved in the project, and those who officially approved the allocation of time and resources, expect the results to be shared with them. Another is that the issue that was the catalyst for the project could re-emerge as a problem sometime in the future; if so, having a record of an effective initiative for change could prevent the school having to "reinvent the wheel".

Forms of reporting

Often the reporting will occur at the end of each cycle of research and action, and may take any of the following forms:

- a report at a syndicate or whole-staff meeting
- a report to the senior management team
- a report to the board of trustees
- a report to the wider community - perhaps at a parent-teacher event

- a report to a cluster of schools at a teacher development event
- a report published in a professional journal or magazine.

While there is no set format for such reports, the following table may serve as a useful guide to aspects of the project that need to be shared with others.

Table 2: Points to Consider in Reporting Action Research	
Why was the research undertaken?	Description of the underlying issues and the motivation of the research team
What was discovered in relation to the issues?	Brief outline of the investigation and its findings
What was done to change practice?	Outline of the change strategies that were implemented
What has changed?	Summary of the evaluation of the initiative and what it revealed
What has been decided as the next steps?	Brief overview of conclusions and recommendations arising from the project

What's in a name?

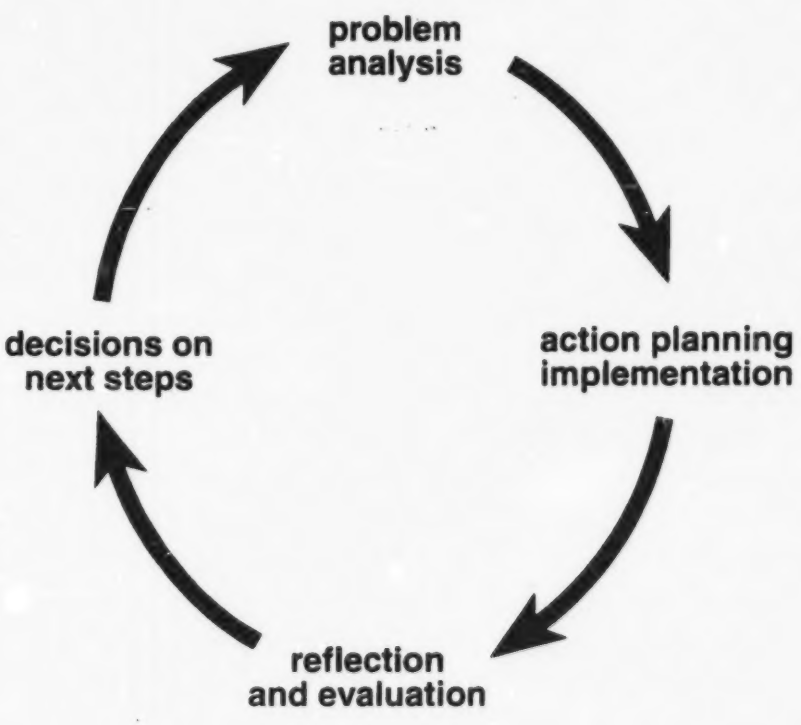
There is an emerging view that what practitioners commonly call "action research" is often in fact *action learning*, and that this activity is essentially the same as developmental action research. But there is one substantial difference, which is that true action research is always reported.

Kurt Lewin, in contributing this democratic problem-solving process to the world of research, originally intended it as action learning for groups seeking to improve their own practice. The traditional theory of learning assumed that knowledge must be transmitted and received in the form of information or research findings before it could be applied to practice. *Experiential* or *action learning* (Kolb, 1984)

assumes that adult learning is most effective when based on experience and reflection.

Action learning is a developmental and problem-solving approach best employed by groups and facilitated by someone with skills in both process and critical dialogue (Cardno, 1996). "Action research" is often suggested as a means of organisational and professional development, when in fact it is action *learning* that is being described. Figure 4 shows the cycle of action learning.

Figure 4: Action Learning Cycle



So what makes action research different? Zuber-Skerritt (1993) suggests that in action research there *is* action learning, but the process is "more deliberate, systematic and rigorous, and it is always made public" (p.46). Wallace (1987) contends that action research requires a more formalised approach to data-gathering, and must be published to achieve its status as *research* as opposed to a form of organisational development.

Developmental action research may well be a hybrid, combining the elements of experiential learning that practitioners find attractive with the more formal and systematic process of reconnaissance, intervention and evaluation required in action research. While the results may not be published, there are several other manageable and effective ways of reporting a project (see above) so that it meets this criterion and can confidently be called developmental action research.

DOING DEVELOPMENTAL ACTION RESEARCH

Implementing a cycle of action research

So, you are motivated to do action research, because of an issue or problem that affects your practice. Before embarking on such a project, it is useful to consider the things you will have to do as part of this systematic problem-solving activity. The process framework described below matches the key elements shown in Figure 1 (the spiral of developmental action research).

Entering a cycle of action research

The first essential step relates to *Issue Identification (II).* This involves:

- reflecting on the issue that you and/or others have identified
- forming a collaborative action research group or team
- determining whether the issue is significant enough to warrant action research
- considering how you will make time to meet, in order to undertake the project
- setting a timeframe for the project
- planning for the project
- writing a brief proposal for the project, to be shared with appropriate people (guidelines for this are provided later).

Case study:

Lex is a deputy principal who is responsible for overseeing the implementation of the school's performance management system (PMS), which incorporates the staff appraisal policy. She has become aware of concerns that curriculum leaders are not consistently carrying out effective classroom observations with all teachers.

Lex has approached the principal and suggested using action research to investigate and improve this situation. She has invited two curriculum leaders and two assistant teachers to join her in forming an action research group, which called itself the Classroom Observation Group (COG for short). Staff have been informed about the project, and the group has scheduled regular meetings after the weekly staff meetings for at least six weeks to get the project under way.

Carrying out a cycle of action research

This section describes the three major phases of an action research cycle, and how they were applied by the Classroom Observation Group in the case study.

Phase 1 — Investigation and Analysis (AI)

At this point, the focus is on determining where you are and where you want to be in relation to the issue that has triggered your research project.

To carry out a reconnaissance of current practice, the Classroom Observation Group collected documents about their own appraisal policies and practices, and those of three other schools with which they had connections; they also assembled readings about the theory and practice of effective classroom observation.

At the same time, they collected relevant data on what each of the seven curriculum leaders in the school was doing in relation to classroom observation, and how they felt about the current practice. This was done by asking curriculum leaders and all teachers to fill in an open-ended questionnaire. The group also met with the senior management team to clarify their expectations.

The patterns emerging from this feedback helped the group to summarise the positive and negative aspects of classroom observation practice at the school. They were then able to use this, together with the information gleaned from their reading on the topic, to draw up a set of guidelines for improvement.

Phase 2 – Planning and Action (PA)

At this point, the focus is on planning what will change and how, and establishing criteria for judging whether you have achieved the desired improvement.

The Classroom Observation Group devised a strategy for intervening in current practice in order to improve it. They suggested new procedures and practices to be implemented from mid-year. But first, they proposed that a full staff meeting be devoted to discussing and agreeing the purpose of classroom observation. All teachers would then be familiar with the values and procedures of the new approach before it was implemented.

The group proposed that the curriculum leaders provide regular feedback on the new practices. The group then worked with senior managers and curriculum leaders to decide what exactly effective classroom observation should achieve, for both teachers and managers, and agreed that these standards would be used to evaluate what had changed.

Phase 3 – Evaluation and Reflection (ER)

At this point, the focus is on determining the extent to which the change strategy has achieved what it set out to achieve. Reflecting on what has happened in the process of implementing the change, and the implications for sustaining that change, are important aspects of this final phase, and lead on to questions about "what next?".

The Classroom Observation Group decided to repeat the questionnaire they had given to curriculum leaders and teachers in the first phase. This would help them to determine whether practices and views had altered, and whether there were still issues outstanding. They spent time reflecting on the results of this second survey, using them to pinpoint what had been achieved and what remained to be done.

A new issue that emerged at this point related to the induction of new teachers and new curriculum leaders. The senior managers picked up the recommendation that action research could be used to examine the school's induction practices.

Moving on to the next cycle of action research

At this point, the spiral of action research enters a new cycle, as either the existing group or a new group is motivated to take a related or emergent issue forward into another cycle of research and action.

The senior management team decided to employ an external consultant to facilitate an action research project that examined issues relating to the induction and appraisal of managers and new teachers in the school.

Planning a collaborative project

If an action research project is well organised, it is more likely to be completed than one that is allowed to "follow its nose" entirely. Planning should not, however, be viewed as a straitjacket. Rather, it helps to clarify and communicate the many strands and steps that make up this type of research, both for the individual researcher and for the collaborative group.

In my own experience with action research – as a practitioner (both teacher and school leader), as a student and as an academic – I have always found a planning grid useful to make sure I have thought of all necessary aspects.

Table 3 is offered as a guide to planning an action research project. It poses a series of questions that the researcher (or research group) should address when embarking on a project, and draws attention to the key research actions that need to be carried out, in collaboration with others.

Planning for a collaborative project covers the following areas:

- identifying the issue and the need to collaborate
- reading up about action research and establishing shared knowledge with the group
- reading about the topic in relation to the developmental issue, and collaborating in assembling and reviewing related literature and documents
- formulating and answering research questions, and collaborating over the collection and analysis of data (the reconnaissance phase)
- making a commitment to research that is ethical and valid, through collaborative communication
- deciding how to implement changes with others (the intervention phase)
- considering ways to establish the effectiveness of the intervention (the evaluation phase)
- considering ways to report collaboratively on the project.

Table 3: Planning Questions for Beginning Action Research			
RESEARCH ACTION	✓	**COLLABORATIVE ACTION**	✓
Identifying the problem Why do I think this is a problem? Do others think it may be a problem? Do we need to improve in this area? Is it significant enough to warrant research or does it just require a change of action? What hunches do I have about this problem?		**Identifying a need to collaborate** How can I check my hunches with others? Will solving this problem require others to commit to making changes? Do I need a collaborative action research group to do this research? How can we share our knowledge, concerns and experience?	
Reading up about action research Do I know enough about the process? Where can I find useful resources and examples?		**Establishing shared knowledge of action research** How much does the collaborative group know about action research? How will we clarify roles in the group or with others involved?	
Reading about the topic or the investigation What do I know about the topic? Is there previous research about this topic?		**Collaborating to assemble and review readings and documents on the topic** How can the group of others locate relevant literature and documents? Who will read what?	

Table 3: Planning Questions (continued)			
RESEARCH ACTION	✓	**COLLABORATIVE ACTION**	✓
Are there school or national policies or guidelines on this topic? Do I need to search literature – e.g. Should I get in touch with NZCER?		Should we start meeting regularly to discuss readings to keep us all informed? Has the group considered the time commitment and any limitations?	
Formulating and answering research questions to guide investigation and analysis What do I need to know and why? How best can I find the answers to the research questions? What kind of data do I need (e.g. descriptive, numerical, or both)? Do I have the skills and knowledge to implement the techniques I choose? How can I get help if I need it? How will I make sense of the data? How best can I present the data to show trends & patterns that might answer the questions?		**Collaborating over data collection and analysis** To what extent do I need to involve others? Will the group or others help with this? Will group members be contributing personally to the data we need to collect? Might this create a problem? How else could they be involved in this? Are there ethical issues to be considered with data collection and analysis?	

Table 3: Planning Questions (continued)			
RESEARCH ACTION	✓	COLLABORATIVE ACTION	✓
Making a commitment to research that is ethical and valid Have I considered the ethics of what we are doing with information gained from others? How can I ensure that the data collected is presented precisely and truthfully? Should I pre-test my tools to ensure they can capture the information I am seeking? How can I increase the rigour of the findings by collecting views from multiple perspectives or using more than one method to collect data?		**Collaborative communication for ethical and valid research** How as a group can we ensure that our research causes no harm? How will we communicate ethical issues? How can communication with relevant participants allow us to continually check the truthfulness of the data collected? What communication structures could be set up to check accuracy and privacy?	
Deciding how to implement change What is ongoing from the data to show possible ways forward? Given the new knowledge could I now modify or change strategy to improve the situation? How should I present the intervention plan? What variables should be set up to monitor the effectiveness of the intervention? Will the intervention be monitored during its course or reviewed at the end?		**Implementing change with others** How and to what extent could I involve the group in this activity? Who else will need to be involved in implementing the change strategy?	

Table 3: Planning Questions for Beginning Action Research			
RESEARCH ACTION	✓	COLLABORATIVE ACTION	✓
Considering ways to establish the effectiveness of the intervention When is it feasible or appropriate to conduct a formal evaluation of the change strategy? Will I need to collect more data? What will be the most appropriate way of doing this? Having collected the appropriate data, can I now draw conclusions and make recommendations for further research action or change in practice?		**Evaluating with others** How and to what extent could I involve the group in this activity?	
Considering ways to report the project Will this project be reported in written form? Does this project lend itself to being reported in another way, and what would this involve? To whom will the report be presented?		**Reporting collaboratively** How and to what extent could I involve the group in this activity?	

Developing an action research proposal

One way to set out your research ideas systematically is to develop your plan into a formal proposal. This provides a record of your focus, aims and intentions. Table 4 can be copied and used as a template for a simple proposal.

A proposal is a clear and concise way of articulating your broad intentions for the project. It is not meant to be a straitjacket, but merely sets out where you think the research might take you. It should be used as a working document, which can be amended as the research process unfolds. It is also a useful way of communicating your research ideas to key people who need to be informed of your project and could assist you along the way.

Table 4: A Proposal for Developmental Action Research
PROPOSAL FOR A DEVELOPMENTAL ACTION RESEARCH PROJECT
Audience for proposal [People who need to know about the project]
The research team [Names of members]
Rationale for the project [What the issue (or issues) appears to be]
Aims and timeframe of the project [What we want to achieve, and by when]
Implementing an action research cycle [What we intend to do]
Ethical considerations [What is needed in order to gain informed consent]
Resources [Help or support we might need]

CHALLENGES FOR ACTION RESEARCHERS

Sometimes a problem-solving task that initially appeared very simple and straightforward turns out to be much more complex and dynamic. That is the very nature of action research. If it is undertaken seriously as a collaborative process for change, action research has some inherent challenges for practitioners. Among them are the issues of validity and ethical research.

Validity in action research

Reliability in research is concerned with consistency of results. It answers the question: to what extent will a research procedure produce similar results on all occasions under similar conditions? Davidson and Tolich (1999) remind us that a scientific and quantitative approach to research emphasises the need for reliability, and is concerned with replication of the study and with generalisation (that is, using the results of one study to predict consequences for the whole population).

Whenever action researchers use quantitative tools such as large surveys, they do of course need to be concerned about reliability. However, because most action research projects are small and situational, they are unlikely to conduct large surveys with a view to replicating and generalising results. Furthermore, qualitative researchers (and this includes action researchers) are more concerned with providing a valid (that is, precise and truthful) description of what is said or done in a specific situation.

Qualitative research, then, is more concerned with validity than with reliability. *Validity* is a complex issue, and requires us to ask whether the instruments or questions we use actually measure the concept being researched. One way of

checking validity is to pre-test our instruments or questions. Because the context for action research is a single situation or case, action researchers are not driven to establish *external* validity (that is, whether the findings can be generalised). Instead, they are highly motivated to establish *internal* validity, which means a concern with the design and implementation of all stages of the project, to ensure that the way the data is gathered, analysed and presented meshes with their commitment to what is intended and what is important.

For example, if the researchers are transcribing interviews, the people they interview should be able to check the transcripts for accuracy. Once the data has been analysed and interpreted, the researchers need to share and verify the findings with the people who contributed and who will be involved in implementing new practices. This process will invariably include discussion and debate on critical issues. The quality of this communication with participants, and regular checking that the intentions of the research are being met, contribute to the validity of the action research.

Another common way of increasing validity in action research is by using *triangulation*, which means approaching the collection of data from different angles or perspectives, and drawing the results together to create a more substantial view of the situation. This can be done in several ways, one of which is to seek information from multiple sources in order to generate layers of data. This is a sound way of strengthening the credibility of a project.

In researching the effectiveness of a staff appraisal system, for example, it could be useful to establish the views of senior management, middle management and classroom teachers involved in the process. Another way of triangulating data is to use multiple methods of data collection. For example, in the investigation of appraisal practice, a documentary analysis

of legislation and school policy would be an essential step, followed by a brief questionnaire to establish how regulations and procedures are actually being implemented within the school; a focus group interview might then be used to check issues emerging from the analysis of the questionnaire.

By giving clear accounts of the principles of validity they have applied in a project, action researchers can strengthen the position of the methodology as a rigorous form of research. One excellent example can be found in an account of the Shared Decision Making project (Hill and Capper, 1999) conducted in New Zealand secondary schools. By using a process of analytical induction, the researchers moved "back and forth from principles to specific cases and from cases to specific principles, modifying the principles to take account of cases that do not 'fit' or support prior principles" (p.284). Analytical induction is an iterative process requiring the feedback of observations, tentative analysis and interpretations to participants at several stages throughout the project. It is a powerful tool in establishing conclusions, and helps to counter criticism that some action research endeavours lack validity.

In short, action researchers contribute to the methodology when they use appropriate principles and procedures to establish validity. Some emerging trends in achieving this aim are as follows:

- providing accounts of the validity processes in action research reports
- negotiating the agenda for research and action with all participants
- using triangulation (of methods, perceptions, observations and interpretations)
- using cycles of feedback to validate results, tentative analyses, interpretations and conclusions
- establishing clear audit trails to demonstrate the iterative validation of data by participants

- implementing iterative processes for dialogue to critique literature, data and change action and the action research methodology itself.

Validity can be built into a project during the planning stage. Collaboration within the project is enhanced if formal structures for communication are set in place right at the start, and used to constantly check and verify the accuracy of recorded data and the way it is analysed, interpreted and reported. As McTaggart (1999) asserts:

> Validation in participatory action research can only be achieved if there are appropriate communicative structures in place throughout the research and action which allow participants to continue to associate and identify with the work of the collective project of change. (p.12)

In action research, the opportunity to communicate openly and critically on validity issues arises in both the reconnaissance phase, when the problem is being investigated, and the evaluation phase, when a further round of data-gathering occurs to judge the effectiveness of the change.

Ethical considerations

The ethics of research focus on the need to protect people taking part in a study from any possible harm - physical, mental, emotional or financial - in the research process. Research ethics include both private and public issues. New Zealand is a small country whose recent history includes the cervical cancer experiment at National Women's Hospital, which catapulted the ethics of medical research into the media headlines in the late 1980s (Tolich, 2001). A national inquiry into the case resulted in ethics committees paying stringent attention to the need for "informed consent". Further disturbing evidence of unethical medical research practice in the name of "the greater good" continues to shock and concern citizens.

While action research in education is unlikely to generate such controversy, practitioners should still be aware that they are entering a sphere of social science research in which their intervention could affect the working lives and conditions of other people. Furthermore, they must never forget that, in such a small society, promises of confidentiality and the use of pseudonyms are no guarantee that an institution or even an individual cannot be identified when the research is discussed and/or published in the public domain.

Throughout a project, action researchers must give due regard to the demands of ethical research. There is a particular concern that the researcher's own interests and values may lead to bias. Often they are investigating in contentious areas within their own work environment, or getting into scenarios where there is conflict between multiple stakeholders. This is particularly crucial when the research is highly participatory and members of the research group hold diverse and often contradictory views. Recognising and openly acknowledging such a situation is part of doing ethical research, and goes beyond mere compliance with the principle of informed consent.

Nonetheless, the principle of *informed consent* is fundamental to ethical research. Participants must be as well informed as possible about the aims of the research and their role in it. Where they contribute data, they must consent to how it will be used in the project. An ethics checklist, adapted from the work of Davidson and Tolich (1999), is provided below as a guide to action researchers.

Ensure that participation is voluntary

Social research can be an intrusion, so it must be voluntary. Researchers need to:

- give prospective participants information about the project

- ensure that people are invited to participate without pressure
- gain formal consent from those who take part in interviews, focus groups or observed events or activities
- gain consent from institutions and leaders to conduct the study
- gain consent from caregivers if children are involved.

Work to minimise harm and avoid deceit

It could be argued that any kind of research interferes in the lives of participants and risks harming them in some way. However, researchers have a duty not to harm the people involved in their study. To achieve this, they must:

- pay attention to the sort of questions they ask and how they reveal the responses
- ensure they do not deceive people about why and for whom the research is being done.

Protect by ensuring anonymity and confidentiality

The identity of participants must be protected. While this can be done with questionnaires (unless they specifically request disclosure), it is not possible for interviews to be anonymous. Confidentiality means not making identities or connections public. Researchers must therefore:

- tell respondents to questionnaires that their answers will remain anonymous (or alternatively, tell them what parts will *not* be anonymous)
- tell participants in interviews and observations how much confidentiality you will ensure.

Sharing and reporting data

Ethical principles apply to the checking of data with participants once it has been collected, and also to the obligation to share the knowledge in the final report.

Researchers will need to:

- establish protocols for giving transcripts of interviews or observations to participants for checking
- act on promises they make to share tentative conclusions
- honour the obligation to provide participants with access to the final report.

By its very nature, action research presents some challenges that would not arise in other types of research. It is done close to home, by people who are within the situation being researched and changed. Often it is impossible to guarantee confidentiality and anonymity, and this is a challenge the research group may have to overcome. Ethical problems seldom arise unless the project itself moves into an unforeseen dimension that carries potential harm for participants. In such situations it pays to stop, reflect and if necessary seek help, rather than ploughing ahead with a possibly unethical project.

On a more positive note, the strong collaborative and collegial values that bind action research groups together - and motivate them to embark on a project for change in the first place - stand them in good stead when the going gets tough. In managing an ethical project, the research group is ultimately its own best resource.

The ethical challenge for action researchers is remembering that any research involves risk to the individuals concerned. The duty of a research group is to minimise those risks in all possible ways. For the final word we turn to Hugh Busher (2002), who states:

> In the end researchers have to take decisions about how to carry out research that makes the process as ethical as possible within the frameworks of the project, including budgets of time and finance which they have available to them. These decisions include considering whether it is worthwhile undertaking a piece of research by weighing up the harm and benefit to participants and to society that may arise if the research is or is not carried out. (pp.86-87)

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